

What is claimed is:

1. A system for displaying graphical information in three dimensions, the system comprising:

a host device executing an application for generating graphical information in a spatial transport protocol;

rendering hardware for generating three-dimensional display data;

frame buffer for storing said three-dimensional display data;

a spatial display for displaying said three-dimensional display data; and

a spatial transport protocol interpreter receiving said graphical information in said spatial transport protocol and controlling operation of said rendering hardware and said frame buffer in response to said graphical information in said spatial transport protocol.

2. The system of claim 1 wherein:

said rendering hardware, said frame buffer and said spatial transport protocol interpreter are incorporated within said spatial display.

3. The system of claim 2 wherein:

said host device is coupled to said spatial display by a bus.

4. The system of claim 1 wherein:

said rendering hardware, said frame buffer and said spatial transport protocol interpreter are incorporated within said host device.

5. The system of claim 1 wherein:

said rendering hardware generates a bitmap image.

6. The system of claim 1 wherein:

said rendering hardware generates a vector list.

7. The system of claim 1 wherein:

said spatial transport protocol includes commands.

8. The system of claim 7 wherein:

said commands include commands for operating said rendering hardware and said frame buffer.

9. The system of claim 7 wherein:

said commands include commands for synchronizing operation of said host device, said rendering hardware and said frame buffer.

10. The system of claim 7 wherein:

said commands include commands for controlling operation of said spatial display.

11. The system of claim 1 wherein:

a 3D pointer is rendered in said spatial display.

12. The system of claim 11 wherein:

said 3D pointer is rendered as a glyph with a tail, a direction of said tail following a most recent movement of said 3D pointer.

13. An architecture for displaying graphical information in three dimensions, the architecture comprising:

an application layer including applications for generating visual object descriptions;

an application program interface layer receiving said visual object descriptions and generating graphical information;

a spatial transport protocol layer for converting said graphical information into a spatial transport protocol and generating a stream of said graphical information in said spatial transport protocol; and

a display layer receiving said stream of graphical information in said spatial transport protocol and displaying said three-dimensional display data on a three-dimensional spatial display.

14. The architecture of claim 13 wherein:

said application layer includes a native application generating graphical information in said spatial transport protocol.

15. The architecture of claim 13 wherein:

said application layer includes a legacy application generating graphical information that is converted to said spatial transport protocol by said spatial transport protocol layer.

16. The architecture of claim 13 wherein:

said application program interface layer interprets said visual object descriptions formatted in a first format.

17. The architecture of claim 16 wherein:

said first format is OpenGL.

18. The architecture of claim 16 wherein:

said first format is Direct3D.

19. The architecture of claim 13 further comprising:

a volume manger in communication with said application program interface layer, said volume manager managing three-dimensional regions within said spatial display and allocating at least one three-dimensional region to display graphical information from at least one of said applications.

20. The architecture of claim 19 wherein:

said volume manager accesses a preferred viewer position and controls orientation of graphical information within one of said regions in response to said preferred viewer position.

21. The architecture of claim 20 wherein:

wherein said preferred viewer position is specified by a user.

22. The architecture of claim 20 wherein:

wherein said preferred viewer position is detected by a sensor.

23. A volume manager in communication with an application program interface layer, said volume manager managing three-dimensional regions within a three-dimensional spatial display and allocating at least one three-dimensional region to display graphical information from at least one application in communication with said application program interface layer.

24. The volume manger of claim 23 wherein:

said volume manager accesses a preferred viewer position and controls the orientation of graphical information within one of said regions in response to said preferred viewer position.

25. The volume manger of claim 24 wherein:

wherein said preferred viewer position is specified by a user.

26. The volume manger of claim 24 wherein:

wherein said preferred viewer position is detected by a sensor.

27. The volume manager of claim 23 wherein:

visual objects within said spatial display are distinguished from each other by displaying a platter beneath each visual object.

28. The volume manager of claim 27 wherein:

said platter is repositioned within said display through a click-and-drag operation on said platter.

29. The volume manager of claim 27 wherein:

said platter is associated with an icon, selection of said icon setting the visual object to an inactive state.